

PROCEEDINGS OF LEARNED SOCIETIES.

GEOLOGICAL SOCIETY.

May 4th, 1921.—Mr. R. D. Oldham, F.R.S.,
President, in the Chair.

The following communications were read:—

1. 'An *Ottokaria*-like Plant from South Africa.' By Hugh Hamshaw Thomas, M.B.E., M.A., F.G.S.

The object of this note is to record the discovery in the Vereeniging Sandstones of the Transvaal of a fossil plant which bears considerable resemblance to the rare genus *Ottokaria*. Only two specimens of this type have hitherto been described—one from the Lower Gondwana of India, the other from beds of similar age in Brazil, and little or nothing is known about its nature or affinities. The present specimen agrees with the known examples in general size, and in having a more or less circular lamina (or head) seated upon a stalk; but it also possesses an additional feature in a thin flattened structure projecting beyond the head. This feature has been called the 'wing,' but its original nature is very problematical. It may have been formed from a platyspermic seed projecting from the head, the latter being a kind of cupule; or it may have been formed from a thin envelope originally enclosing the head.

Ottokaria was probably a reproductive structure, and its association with *Glossopteris* suggests a possible connexion with this plant, the reproductive structures of which are practically unknown. It is not considered necessary at present to make a new genus for this specimen, and the name of *Ottokaria lesliei* is assigned to it, after its discoverer Mr. T. N. Leslie, F.G.S.

2. 'On *Nummulospermum*, gen. nov., the probable Megasporangium of *Glossopteris*.' By A. B. Walkom, D.Sc.

The Author, after referring to the evidence hitherto adduced with regard to the nature of the spore-bearing organs of *Glossopteris*, describes some seeds associated with the fronds of *Glossopteris* at certain localities in Queensland. He refers the seeds to a new genus, and describes them under the name *Nummulospermum bowenense*. The seeds vary in length from 9 to 11 mm. and from 8 to 11 mm. in breadth; they are oval or circular, probably platyspermic, and possess a wide sarcotesta and narrow sclerotesta. The nucellus has a prominent beak projecting into a narrow micropyle. The vascular system is also partly described. *Nummulospermum*, though closely associated with *Glossopteris* fronds, has not been found in actual connexion with them. Similar, and in some cases identical, seeds have been found in close association with *Glossopteris* at other localities.

Remarks are added on the scale-leaves of *Glossopteris*, and on

the affinities of *Glossopteris*, which the Author is disposed to include in the Cycadofilicales. He is of opinion that the anatomical features of the seeds, so far as they can be made out from the impressions, favour their inclusion in the Trigonocarpales.

3. 'The Evolution of Certain Liassic Gastropods, with special reference to their Use in Stratigraphy.' By Miss Agnes Irene McDonald, B.Sc., and Arthur Elijah Trueman, D.Sc., F.G.S.

The gastropods dealt with in this paper are turriculate forms, which have generally been called

(a) *Cerithium*, which includes those Liassic species that are ornamented with axial and spiral threads, forming a network, often with tubercles; now referred to the family Procerithidæ, Cossmann.

(b) *Chemnitzia*, which includes species ornamented by strong axial ribs; now referred to the family Loxonematidæ, Koken.

An endeavour has been made to study these gastropods in the light of modern palæontological research, and suggestions for their classification, based on ontogenetic and other evidence, are made. The position and characters of the ornamentation have proved of value in classification, when taken in conjunction with the other characters of the shell.

Many of the biological principles that have been studied in such groups as the Ammonites are clearly illustrated by these gastropods. In numerous series, acceleration and retardation of development is indicated. Examples of homœomorphy of several types have been noted; the recognition of such homœomorphs, which often occur at different horizons, is essential in the identification of species in these groups, if they are to be of value in correlation.

The Procerithidæ of the Lower Lias are chiefly species of *Procerithium*, in which the flattish whorls have reticulate ornament based on three spirals; this central stock is also common in the Inferior Oolite, where it is represented by similar species with four spirals (*Cerithium muricatum*). This series probably gave rise to many recent Cerithidæ which have more than four spirals. Besides the species with three spirals, there are in the Lias many forms which the Authors regard as more specialized, and are characteristic of particular horizons. Other genera of Procerithidæ are recognized, of which *Cerithinella* and *Paracerithium* have distinctive ornament. The pupoid forms which have been grouped in the genus *Exelissa* are regarded by the Authors as catagenetic descendants of diverse species of *Procerithium*.

The Loxonematidæ of the British Lias are of two types—one with axial ornament only (*Zygopleura*), the other with axials and feeble spirals (*Katosira*). Each of these genera during the Lias evinces a tendency to increase the number and curve of the axials. In development, axials always appear before spirals among the Loxonematidæ, while spirals are developed first among the Procerithidæ.